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# INSTALLATION RESTORATION PROGRAM

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Final  
**DECISION DOCUMENT**  
**UST SITE 301**

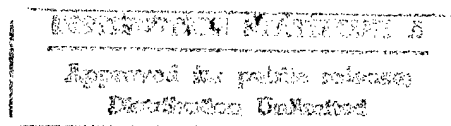
117th Refueling Wing  
Alabama Air National Guard  
Birmingham Airport  
Birmingham, Alabama

January 1997



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INSTALLATION RESTORATION PROGRAM

DECISION DOCUMENT  
SITE UST 301

117 AIR REFUELING WING  
ALABAMA AIR NATIONAL GUARD  
BIRMINGHAM AIRPORT  
BIRMINGHAM, ALABAMA

Submitted to:

AIR NATIONAL GUARD READINESS CENTER  
ANDREWS AIR FORCE BASE, MARYLAND

Modified and Submitted by:

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM  
MARTIN MARIETTA ENERGY SYSTEMS, INC.  
OAK RIDGE, TENNESSEE

for the  
U.S. DEPARTMENT OF ENERGY  
UNDER CONTRACT NO. DE-AC05-84OR21400

Prepared by:

CH2M HILL, INC.  
MONTGOMERY, ALABAMA

JANUARY 1997

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## ACRONYMS

|         |  |
|---------|--|
| AANG    | Alabama Air National Guard                     |
| ADEM    | Alabama Department of Environmental Management |
| ANG     | Air National Guard                             |
| ANGRC   | Air National Guard Readiness Center            |
| DOD     | Department of Defense                          |
| DOE     | Department of Energy                           |
| GPR     | Ground Penetrating Radar                       |
| HAZWRAP | Hazardous Waste Remedial Actions Program       |
| IRP     | Installation Restoration Program               |
| NGB     | National Guard Bureau                          |
| PA/SI   | Preliminary Assessment/Site Investigation      |
| RD/RA   | Remedial Design/Remedial Action                |
| RI/FS   | Remedial Investigation/Feasibility Study       |
| SI      | Site Investigation                             |
| UST     | Underground Storage Tank                       |

## EXECUTIVE SUMMARY

As part of the Installation Restoration Program (IRP), the Air National Guard Readiness Center (ANGRC), previously known as the National Guard Bureau (NGB), and Alabama Air National Guard (AANG) requested field observation and sampling during the removal of Underground Storage Tank (UST) 301. The investigation was begun to determine the presence or absence of contamination and the risk to public health and environment, if any, associated with past operations at this site.

This document was prepared to review the available data, to evaluate alternative actions, to make recommendations concerning future action, and to fulfill the requirements and objectives of the National Environmental Policy Act.

The UST 301 site was investigated during the field survey task, and no tank was found. UST 301 was believed to have contained butane.

Because no UST was found, it is recommended that this site be removed from further IRP activities and that no further action is required.

## 1. INTRODUCTION

The objectives of the Decision Document are to present the history of Underground Storage Tank (UST) 301 at the Alabama Air National Guard (AANG) facility in Birmingham, to discuss observations made while investigating the tank, and to present conclusions and decisions about the disposition of the UST site. Decisions are based on regulations set forth in the site investigation (SI) work plan dated November 1989.

Figure 1 shows the general location of AANG in Birmingham. Figure 2 shows the specific location of the UST 301 site on the base. Evaluations are based on criteria set forth in the Site Investigation Work Plan, Alabama Air National Guard (CH2M HILL, Inc., November 1989).

## 2. BACKGROUND

### 2.1 PROGRAM BACKGROUND

The Air National Guard Readiness Center (ANGRC), through the Air National Guard (ANG), initiated an Installation Restoration Program (IRP) in response to the policies of the Department of Defense (DOD). The IRP was developed as a phased program for identifying and addressing environmental contamination caused by past practices at ANG installations.

As a part of the IRP, the ANGRC entered into an interagency agreement with the Department of Energy (DOE), under which the DOE will provide technical assistance for implementing this program. The Hazardous Waste Remedial Actions Program (HAZWRAP), as a DOE contractor, is responsible for managing this effort under the interagency agreement.

The IRP, along with other national hazardous waste cleanup programs, follows the terminology and procedures of the National Contingency Plan:

- PA/SI Preliminary Assessment/Site Investigation
- RI/FS Remedial Investigation/Feasibility Study
- RD/RA Remedial Design/Remedial Action

This Decision Document is written to provide the basis for the decision not to do any further work.



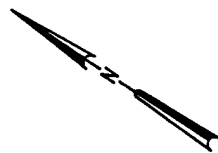


## NTS

1 MILE

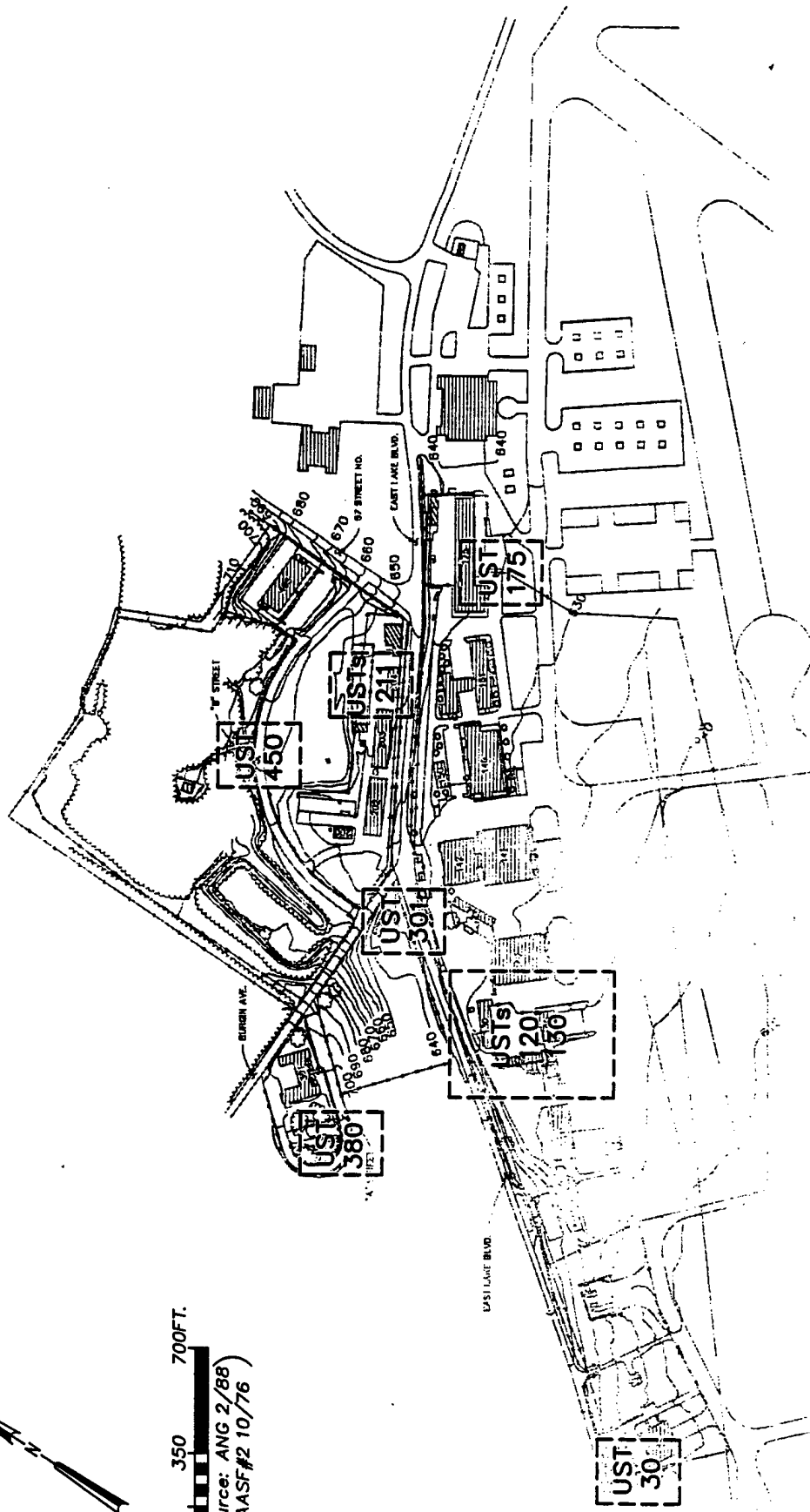
SOURCE: ALABAMA STATE HIGHWAY DEPARTMENT

**FIGURE 1**  
**ANG LOCATION**  
**Birmingham Air National Guard, Birmingham, Alabama**



0 350 700FT.

(Source: ANG 2/88  
AASF #2 10/76)



## 2.2 SITE DESCRIPTION

The 117th Tactical Reconnaissance Wing is located next to and north of the Birmingham Municipal Airport, Birmingham, Alabama. This AANG installation has been active at its present location since 1938. Through the years, the base has had several missions, with past and present operations involving the use of USTs for containment of heating fuels, diesel fuels, and jet propulsion fuels.

UST 301 was indicated to be a butane tank based on information found during the initial investigation of the AANG facility. Figure 3 shows the UST 301 site map.

## 2.3 ENVIRONMENTAL SETTING

### 2.3.1 Geology

The bedrock beneath the Base consists of the Ketona Dolomite and Knox Group. A mottled-colored cherty clay residuum, resulting from the dissolution of the bedrock, overlies dolomites of these units and averages 30 feet in thickness over the base. Some areas of the Base have visible outcrops of dolomite and chert boulders which are isolated in the clay residuum; chert float can be seen at the surface base-wide.

The residual cherty clays are generally homogeneous, although slight changes in the amount of chert, plasticity and stiffness are present. Dolomitic sand lenses are gravelly clays are present, generally occurring at the contact of clay and bedrock.

### 2.3.2 Hydrogeology

The uppermost aquifer at the Base is the Knox aquifer. The top of the aquifer is the saturated permeable interface between the residual clay and the bedrock. The clay materials above the bedrock are also generally saturated at shallow depths, 10 to 15 feet below land surface. These clays generally do not yield significant quantities of water.

The direction of groundwater flow in both the clay residuum and the Knox is to the south; a downward vertical component exists in the clay residuum. Data from slug testing of monitoring wells completed in the clay indicate an average hydraulic conductivity of  $9.02 \times 10^{-4}$  ft/day. Because of the low permeabilities exhibited by the residual clays, lateral transport is inhibited.

### 2.3.3 Water Utilization

Drinking water in the Birmingham is provided by city/county utilities from surface water sources. The municipal water source nearest the Base is the Cahaba River, located approximately 20 miles to the east. Residences adjacent to the Base have been served by the municipal water system for about 60 years.

## **2.4 TANK REMOVAL OBSERVATIONS**

A program to evaluate abandoned USTs at the Birmingham AANG facility included identifying abandoned tank locations, sampling tank contents, preparing tank removal plans and specifications, removing tanks and contaminated soil, and evaluating investigation-derived wastes after the removal effort was complete.

During the Tank Survey Task to identify the location and sizes of the tank, magnetic devices and Ground Penetrating Radar (GPR) were used to identify tank boundaries and sizes. One area was found during this task in the suspected UST area and was further investigated using a hand auger. Hand augering determined that the results of the GPR survey were a result of feedback from shallow rock formations found near the ground surface. An asphaltic cement slab also is located in the suspected area of the UST at the north end of Building 301. Investigation was not conducted under this pavement slab.

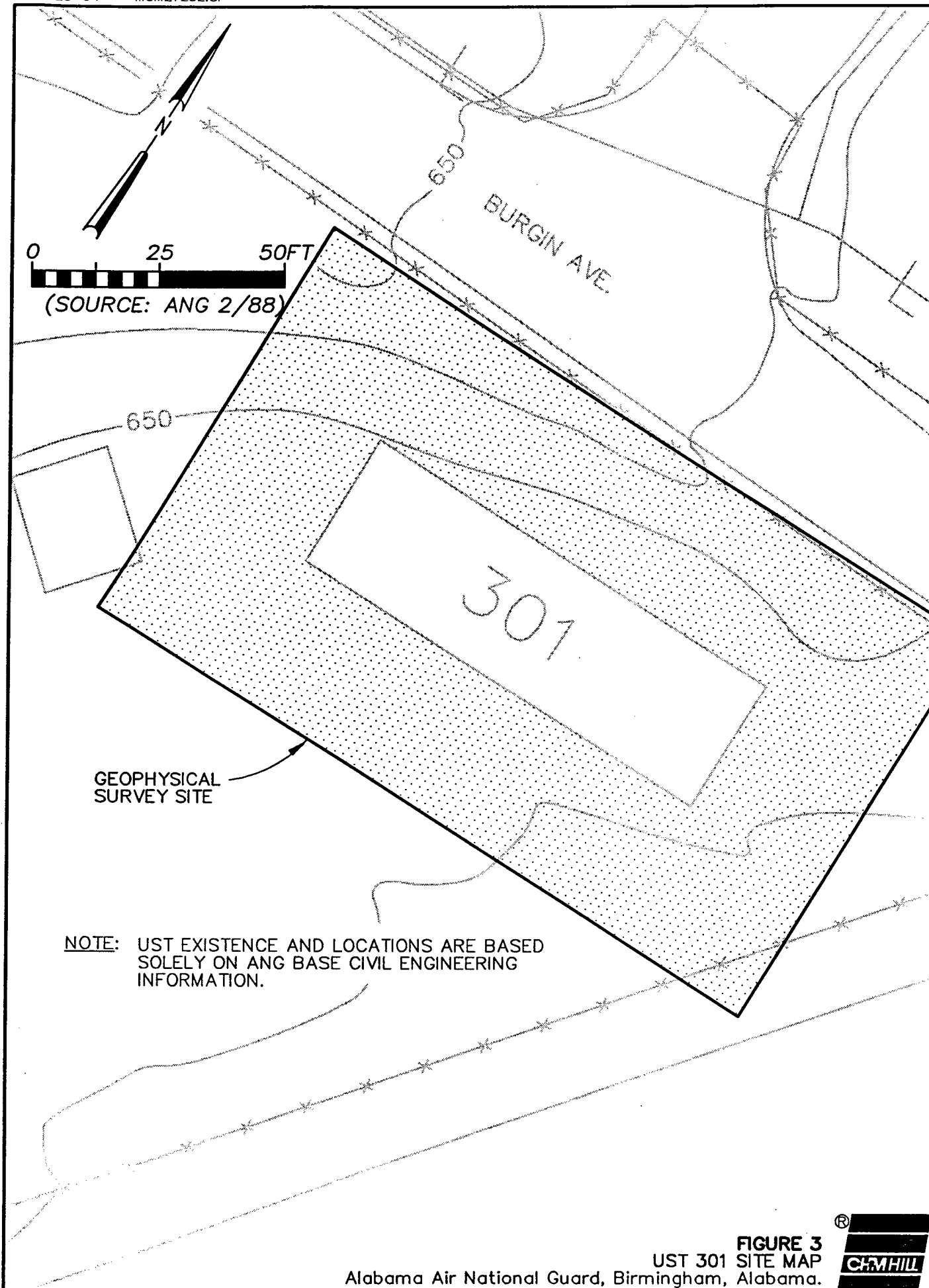
Further review of aerial photography and base records revealed minimal information about the UST 301 site. UST 301 was not found, and no further action was taken.

## **3. CONTROL MEASURES**

Because UST 301 was not found and therefore not included in the UST removal project, control measures used to consider the adverse effects of potential contamination were not considered for screening, identification, and evaluation.

## **4. CONCLUSIONS**

Past operations at the UST 301 site led to this investigation because of possible soil and water contamination. A field survey task used to identify the UST location and size did not reveal the presence of a UST at this site. Numerous utilities exist in this area and some would have been placed either overlying or very near the pre-existing tank. A slab on which a large air conditioning unit is mounted is also in the area of concern. It is probable that if a tank were located here, it is 1) under the A/C slab, 2) was removed when the boiler was decommissioned, or 3) was removed during the burial of utility lines or construction of the A/C slab. Because this tank was known to contain butane, which is gaseous at atmospheric temperature and pressures, the possibility of contamination resulting from the degradation of the tank is minimal. It is recommended, therefore, that no further study of this site be performed.



Because no UST was found, it is recommended that this site be removed from further IRP activities and that no further action be required.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**DAVID C. VAN GASBECK**  
Chief, Environmental Division  
Air National Guard Readiness Center

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Alabama Department of Environmental Management**